

Client's Ref: A00154  
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Date: 90-10-30/Jasper/Kevin Smith



**What is claimed is:**

1           1. A method of manufacturing a liquid crystal display panel,  
2     comprising the steps of:  
3           forming a plurality of pixels on a first substrate;  
4           forming a plurality of micro cell structures on the first  
5     substrate, wherein each micro cell structure surrounds at least  
6     one pixel;  
7           forming a first alignment layer on the first substrate;  
8           providing the micro cell structures with a liquid crystal  
9     utilizing Ink Jet Printing technology; and  
10          combining the first substrate with a second substrate by a  
11     sealing member.

1           2. A method of manufacturing a liquid crystal display panel  
2     as claimed in claim 1, wherein the pixel comprises a data line  
3     and a gate line.

1           3. A method of manufacturing a liquid crystal display panel  
2     as claimed in claim 2, further comprising the steps of:  
3           forming a photoresist layer on the first substrate; and  
4           forming the micro cell structures on the data lines and the  
5     gate lines by carrying out the photolithography on the  
6     photoresist layer.

1           4. A method of manufacturing a liquid crystal display panel  
2     as claimed in claim 3, wherein all the micro cell structures have  
3     the same height by planarization.

1           5. A method of manufacturing a liquid crystal display panel

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2 as claimed in claim 3, further comprising a step of: forming a  
3 color filter and a second alignment layer on the second substrate.

1 6. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, wherein each pixel comprises a color filter  
3 and a black matrix surrounding the pixel.

1 7. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 6, further comprising the steps of:  
3 forming a photoresist layer on the first substrate; and  
4 forming the micro cell structures covering the black matrix  
5 by carrying out the photolithography on the photoresist layer.

1 8. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 7, wherein all the micro cell structures have  
3 the same height by planarization.

1 9. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 7, further comprising a step of: forming a  
3 plurality of pixels and a second alignment layer on the second  
4 substrate, wherein each pixel has a data line and a gate line.

1 10. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, wherein the adjacent micro cell structures  
3 are connected by a passage.

1 11. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, wherein the Ink Jet Printing technology  
3 is a thermal bubble type Ink Jet Printing technology.

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1        12. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, wherein the Ink Jet Printing technology  
3 is a micro piezoelectric type Ink Jet Printing technology.

1        13. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, wherein the sealing member is prepared  
3 before injecting the liquid crystal into the micro cell  
4 structures.

1        14. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, wherein the sealing member is prepared  
3 after injecting the liquid crystal into the micro cell  
4 structures.

1        15. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, wherein the sealing member is prepared when  
3 the liquid crystal is injected into the micro cell structures.

1        16. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, further comprising a step of: forming a  
3 trench between the sealing member and the micro cell structures.

1        17. A method of manufacturing a liquid crystal display panel  
2 as claimed in claim 1, further comprising the steps of:  
3        providing the liquid crystal within the micro cell  
4 structures at the condition of normal air pressure; and  
5        combining the first and second substrates together at the  
6 condition of vacuum.

1        18. A method of manufacturing a liquid crystal display panel

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2 as claimed in claim 1, further comprising the steps of:  
3 providing the liquid crystal within the micro cell  
4 structures at the condition of vacuum; and  
5 combining the first and second substrates together at the  
6 condition of normal air pressure.